

AMENDMENTS TO CLAIMS:

Claims 1-36 are pending at the time of the Office Action.

Claims 1-4, 9, 12-14, 20-24, 28, and 31-32 are amended.

Claims 1-36 remain pending.

1. (Currently Amended) A method in a data processing system having a plurality of nodes operatively connected to a network having a plurality of busses, the method comprising:

transmitting periodically a first message from one of the plurality of nodes to another of the nodes on a first of the plurality of busses of the network;

determining whether the first message was received by the other of the nodes on the first bus; and

when it is determined that the first message was not received by the other of the nodes, transmitting a recovery command to the other of the nodes on a second of the plurality of busses,

wherein the recovery command is configured to cause the other of the nodes to clear a latch-up error in a bus interface circuit that operatively connects the other of the nodes to the first bus.

2. (Currently Amended) A method of claim 1, wherein the other of the nodes cycles power to the a bus interface circuit operatively connecting the other node to the first bus in response to the recovery command.

3. (Currently Amended) A method of claim 2, wherein the bus interface circuit includes at least one of is a link layer controller or a physical layer controller.

4. (Currently Amended) A method of claim 2, wherein the bus interface circuit includes a link layer controller and is a physical layer controller.

5. (Original) A method of claim 1, wherein transmitting periodically the first message further comprises transmitting the first message on each of the plurality of busses.

6. (Original) A method of claim 1, wherein transmitting periodically the first message further comprises transmitting the first message from the one node to each of the other nodes.

7. (Original) A method of claim 1, wherein the nodes transmit a plurality of messages in each of a plurality of frames on the first bus, the first message is one of the plurality of messages, and the first message is transmitted once in each frame.

8. (Original) A method of claim 1, wherein the nodes transmit a plurality of messages in each of a plurality of frames on the first bus, the first message is at least one of the plurality of messages, each frame includes a plurality of minor frames, and the first message is transmitted once each minor frame.

9. (Currently Amended) A method of claim 1, further comprising wherein determining whether the first message was received comprises sending a second message to the other of the nodes on the first bus if the first message is not received by the other of the nodes and determining whether the second message was received by the other of the nodes.

10. (Original) A method of claim 1, further comprising:

detecting a current surge in a bus interface circuit operatively connecting the one node to the first bus; and

cycling power to the bus interface circuit in response to detecting the current surge in the bus interface circuit.

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11. (Original) A method of claim 1, wherein the second bus is a different type of bus than the first bus.

12. (Currently Amended) A method of claim 1-claim 11, wherein the recovery command is configured to causes a bus interface circuit operatively connecting the other node to the first bus to be re-initialized by commanding a recovery circuit to at least one of inhibit a first current from a physical layer controller of the bus interface circuit from reaching a link layer controller of the bus interface circuit or inhibit a second current from the link layer controller from reaching the physical layer controller.

13. (Currently Amended) A data processing system, comprising:

a network having a plurality of busses;

a plurality of nodes operatively connected to the plurality of busses of the network;

means for transmitting periodically a first message from one of the plurality of nodes to another of the nodes on a first of the plurality of busses of the network;

means for determining whether the first message was received by the other of the nodes on the first bus; and

means for transmitting a recovery command associated with the first bus to the other of the nodes on a second of the plurality of busses in response to determining that the first message was not received by the other of the nodes,

wherein the other of the nodes comprises a bus interface circuit operatively connecting the other node to the first bus, the bus interface circuit including a physical layer controller and a link layer controller, and a means for interrupting power to the bus interface circuit, and the means for interrupting power is configured to at least interrupt a current flow from the link layer controller to the physical layer controller in response to the recovery command.

14. (Currently Amended) A data processing system of claim 13, wherein the other of the nodes further comprises: a means for receiving the recovery command, the means for receiving the recovery command configured to cause the means for interrupting power to interrupt current flow in response to the recovery command

~~a bus interface circuit operatively connecting the other node to the first bus; and
means for interrupting power to the bus interface circuit in response to the recovery
command.~~

15. (Original) A data processing system of claim 14, wherein the other of the nodes further comprises

means for detecting a current surge in the bus interface circuit operatively connecting
the other node to the first bus; and
means for reporting the current surge in the bus interface circuit to the one node on
the second bus.

16. (Original) A data processing system of claim 13, wherein the nodes are operatively configured to transmit a plurality of messages in each of a plurality of frames on the first bus, the first message is one of the plurality of messages, and the first message is transmitted once in each frame.

17. (Original) A data processing system of claim 13, wherein the nodes are operatively configured to transmit a plurality of messages in each of a plurality of frames on the first bus, the first message is one of the plurality of messages, each frame includes a plurality of minor frames, and the first message is transmitted once in each minor frame.

18. (Original) A data processing system of claim 13, wherein the one node comprises:

a bus interface circuit operatively connecting the one node to the first bus;

means for detecting a current surge in the bus interface circuit; and

means for cycling power to the bus interface circuit in response to detecting the current surge.

19. (Original) A data processing system of claim 13, wherein the second bus is a different type of bus than the first bus.

20. (Currently Amended) A data processing system of claim 13-claim 19, wherein the means for interrupting power flow is further configured to interrupt a current flow from a power bus to the physical layer controller in response to the recovery command ~~other of the nodes~~ comprises:

~~a bus interface circuit operatively connecting the other node to the first bus; and~~

~~means for receiving the recovery command on the second bus and for re-initializing the bus interface circuit in response to the recovery command.~~

21. (Currently Amended) A computer-readable medium containing instructions causing a program in a data processing medium to perform a method, the data processing system having a plurality of nodes operatively connected to a network having a plurality of busses, the method comprising:

transmitting periodically a first message from one of the plurality of nodes to another of the nodes on a first of the plurality of busses of the network;

determining whether the first message was received by the other of the nodes on the first bus; and

when it is determined that the first message was not received by the other of the nodes, transmitting a recovery command associated with the first bus to the other of the nodes on a second of the plurality of busses,

wherein the recovery command is configured to cause the other of the nodes to clear a latch-up error in a bus interface circuit that operatively connects the other of the nodes to the first bus.

22. (Currently Amended) A computer-readable medium of claim 21, wherein the other of the nodes cycles power to the-a bus interface circuit operatively connecting the other node to the first bus in response to the recovery command.

23. (Currently Amended) A computer-readable medium of claim 22, wherein the bus interface circuit includes at least one of-is a link layer controller or a physical layer controller.

24. (Currently Amended) A computer-readable medium of claim 22, wherein the bus interface circuit includes a link layer controller and-is a physical layer controller.

25. (Original) A computer-readable medium of claim 21, wherein transmitting periodically the first message further comprises transmitting the first message from the one node to each of the other nodes.

26. (Original) A computer-readable medium of claim 21, wherein the nodes transmit a plurality of messages in each of a plurality of frames on the first bus, the first message is one of the plurality of messages, and the first message is transmitted once in each frame.

27. (Original) A computer-readable medium of claim 21, wherein the nodes transmit a plurality of messages in each of a plurality of frames on the first bus, the first message is one of the plurality of messages, each frame includes a plurality of minor frames, and the first message is transmitted once each minor frame.

28. (Currently Amended) A computer-readable medium of claim 21, further comprising:

detecting a current surge in a bus interface circuit operatively connecting the one node to the first bus, wherein the bus interface circuit includes a link layer controller and a physical layer controller; and

reinitializing a bus interface circuit in response to detecting the current surge by at least one of inhibiting a first current from the physical layer controller from reaching the link layer controller or inhibiting a second current from the link layer controller from reaching the physical layer controller.

29. (Original) A computer-readable medium of claim 21, wherein the second bus is a different type of bus than the first bus.

30. (Original) A computer-readable medium of claim 28, wherein the recovery command causes a bus interface circuit operatively connecting the other node to the first bus to be re-initialized.

31. (Currently Amended) A data processing apparatus, comprising:

a plurality of network interface cards operatively configured to connect to a network having a plurality of busses, each network interface card having a bus interface circuit operatively configured to connect to a respective one of the plurality of busses;

a memory having a program that periodically transmits a first message to at least one of a plurality of nodes operatively connected to a first of the plurality of busses of the network, determines whether the first message was received by the other of the nodes on the first bus, and transmits a recovery command associated with the first bus to the other of the nodes on a second of the plurality of busses in

response to determining that the first message was not received by the other of the nodes,

wherein the recovery command is configured to cause the other of the nodes to reinitialize a bus interface circuit operatively connected to the other of the nodes to the first bus by commanding a means for interrupting power to at least interrupt a current flow from a power bus to a physical layer controller of the bus interface circuit in response to the recovery command; and

a processing unit for running the program.

32. (Currently amended) A data processing apparatus of claim 30, wherein the recovery command is further configured to cause the other of the nodes to reinitialize the bus interface circuit operatively connected to the other of the nodes to the first bus by commanding the means for interrupting power to interrupt current flow from a link layer controller of the bus interface circuit to the physical layer controller ~~causes the other of the nodes to reinitialize a bus interface circuit operatively connecting the other of the nodes to the first bus.~~

33. (Original) A data processing apparatus of claim 31, wherein the second bus is of a different type than the first bus.

34. (Original) A data processing apparatus of claim 30, wherein the first message is transmitted once per frame.

35. (Original) A data processing apparatus of claim 30, wherein the nodes are operatively configured to transmit a plurality of messages in each of a plurality of frames on the first bus, the first message is one of the plurality of messages, each frame includes a plurality of minor frames, and the first message is transmitted once in each minor frame.

36. (Original) A data processing apparatus of claim 30, the method further comprising:

detecting a current surge in the bus interface circuit of one of the network interface cards; and

cycling power to the bus interface circuit of the one network interface card in response to detecting the current surge.